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Proposed Farmers' Market for Northern Kentucky

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Summary

Establishment of a regional farmers' market in northern Kentucky could boost the lagging income of area tobacco farmers, according to a feasibility study by the Agricultural Marketing Service (AMS), U.S. Department of Agriculture (USDA). State officials, concerned about the continuing drop in tobacco production for Kentucky farmers, envision the marketing of locally grown fruits, vegetables, and horticultural crops to complement the production of tobacco. They also envision that farmers would expand production of those garden crops they already grow and the proposed market would stimulate the marketing of other agricultural commodities such as hay and ornamentals. This report, based primarily on secondary sources, reports the findings of the AMS study.

The eight-counties that make up the study area in northern Kentucky are favored with good highways and secondary roads over which there is substantial local and long distance traffic. Four major highways traverse the area (Interstates 71, 74, 75, and 275). The region's 6,000 farms already produce a number of garden crops, including beans, tomatoes, potatoes, cabbage, corn, peppers, cantaloupes, and strawberries. Most of this produce is being sold in roadside establishments directly to consumers. Over 60 percent of a representative number of farmers surveyed indicated that they would be willing to market their products at a regional farmers' market such as the one proposed.

The general population of the area, including greater Cincinnati, is large and diverse. In 1987, the population of the eight-county area was 317,000 and that of the greater Cincinnati area, 1,680,000. The potential buying power of the residents is impressive. IN 1984, per capita personal income was \$11,161 for the eight counties and \$12,637 for the greater Cincinnati area.

Per capita consumption of fruits and vegetables has risen with area population and income. Using a base index of 100 for 1967, per capita consumption of fresh vegetables increased from 102.9 in 1972 to 130.0 in 1985. During the same time period, per capita consumption of fresh fruits rose from 91.9 to 122.2.

On the basis of these demographics, the potential for a successful farmers' market in northern Kentucky is promising. If the market is built (costs for land and facilities are projected at \$2 million), a phased approach is suggested. As the market prospers, additional facilities and functions can be added.

Establishment of the farmers' market is expected to benefit the economy of the region. Employment opportunities will increase as jobs on the market are created. Also, as the market prospers more jobs in agriculture will be opened up to keep an ever-increasing supply of products moving into the market. With sound marketing practices as well as a good staff and promotional plan in place, the future looks bright for the proposed farmers' market in northern Kentucky.

Proposed Farmers' Market for Northern Kentucky

By Robert C. Mongelli¹

The farmers of northern Kentucky², like farmers in many tobacco-growing regions of the United States, are faced with dwindling production. As a result, tobacco production has been steadily declining throughout this decade. In 1985, over 186,000 acres of all types of tobacco were harvested in Kentucky. In 1986, harvested acres fell to just over 153,000 acres (2).³

Tobacco income has also declined as a result of decreases in production. In 1986, the value of tobacco in Kentucky was \$488.1 million, down from \$677.7 million in 1985 (2). Between 1980 and 1986 farm income as a percentage of total income in Kentucky fell from 3.6 percent to 2.7 percent (3). In order to supplement their tobacco income, farmers must look for alternative crops to produce and market. In regions where farmers have faced similar problems, they have turned to the production of fruits and vegetables. The possibility that the farmers of northern Kentucky can take the same path and also be able to market their products is one of the areas explored in this report.

It is not enough for farmers to produce a quality product; they must have the means of marketing it. Since many northern Kentucky farmers have relatively small tillable acreage (22 acres on the average) (11), they are faced with the difficult job of trying to sell to large wholesalers or processors who usually require substantial quantities of product and insist on strict quality control. For this reason, many small acreage farmers market their product through marketing cooperatives and brokers or sell direct to consumers through roadside stands. Others have found well-organized farmers' markets to be an efficient marketing alternative. Farmers' markets, such as the one in Asheville, North Carolina (10), have been operating for years and are very profitable. Other markets have been equally successful, and new ones are being built all the time. In the early 1980's a farmers' market was established in Montgomery, Alabama (13), that has been noteworthy for its profitability to area farmers and the city of Montgomery.

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²In this report, the farmers of northern Kentucky include those in Boone, Campbell, Carroll, Grant, Gallatin, Kenton, Owen, and Pendleton Counties.

³Numbers in parentheses refer to sources in the References.

The objective of this report is to examine the possibility of developing a regional farmers' market in northern Kentucky. The proposed market would be a center of commerce where farmers from the region could sell their production of fruits, vegetables, and other related agricultural commodities. In addition to serving the farmers of northern Kentucky, the market could also provide producers, regionally and state-wide, a cost-efficient means to market their products. At the present time no facility of this nature or potential scope exists in the Commonwealth.

The data used for this report were taken mostly from published sources (Federal, State, local governments, and the University of Kentucky). The data were supplemented with interviews with farmers, food wholesalers, staff members of the University of Kentucky, and local and State officials. All of the pertinent secondary and primary data collected were systemically compiled and included in this report to provide officials with a reliable document upon which to base their decision whether or not a regional farmers' market should be built in northern Kentucky.

A survey of a representative sample of farmers in the eight counties that comprise the Northern Kentucky Area Development District (NKADD) was conducted in the winter of 1988. Its purpose was to ascertain what percentage of farmers in these counties would be willing to sell their products in a farmers' market, if one were built. Other questions included: (1) Would farmers increase their present production? (2) Would they pay a nominal charge? and (3) How far would they travel in order to use the facilities? Results of the survey are discussed later.

Adequate supply and demand are needed in any successful marketplace. To have one and not the other can only lead to marketing failure. A farmer can produce the highest quality product that can be found, but if there is no one there to buy it, the farmer's efforts are wasted. On the other hand, if there is demand for a product and buyers cannot purchase it from one source, they will seek out other sources. In this section both the supply side and the demand side of marketing are examined to determine whether or not the potential exists to bring farmers and consumers, including brokers and wholesalers, together in northern Kentucky for the purpose of buying and selling.

Geographic Area

The study area is the eight-county region of northern Kentucky. The counties include Boone, Campbell, Carroll, Gallatin, Grant, Kenton, Owen, and Pendleton (fig. 1). Figure 2 shows the relationship of the eight-county area to the rest of Kentucky; figure 3 shows the area's relationship to the tristate region of Kentucky, Ohio, and Indiana. Figure 4 shows the Eastern United States, including the major cities and the mileage to the eight-county area.

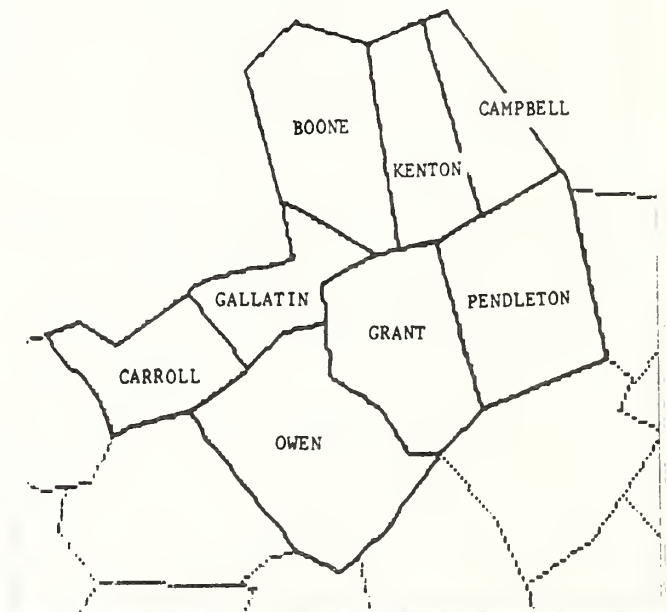


Figure 1.—The eight counties that comprise the Northern Kentucky Area Development District

KENTUCKY



Figure 2.—The eight county area and its relationship to the rest of Kentucky



Figure 3.—The trislate area of Kentucky, Indiana, and Ohio



Figure 4.—Northern Kentucky and its relationship to some U. S. cities

Highways

The highway system of the eight-county tristate area is diverse and includes Interstates 71, 75, 74, and 275, as well as numerous State highways and secondary roads. Because it is on the outskirts of greater Cincinnati, northern Kentucky benefits also from the heavy traffic to and through the city and the longer distance traffic that moves both north and south from the Northern and Southern United States.

Traffic Patterns

Any vehicle that moves through a geographic area can be a potential customer. The NKADD is in a prime location to receive heavy vehicular traffic. It is impossible to ascertain what percentage of the vehicles that move along the Interstate, State highways, and secondary roads represent potential customers to any business or, specifically, a farmers' market. But, it is obvious that potential customers will increase with traffic volume.

Figure 5 shows the annual average 24-hour traffic count for numerous areas on the central part of the NKADD area (18). The numbers on the map indicate where the data were collected. For example, the number 19,940 just north of the Interstate 75 marker and west of Corinth indicates the annual average 24-hour number of vehicles passing that point.

Figure 6 is an enlargement of the extreme northern part of the NKADD area just south of Cincinnati. The numbers on this map also reflect the annual average 24-hour traffic count at the specific locations.

Potential Sellers

In general, the farms of the eight-county area are small, when compared with the State average of 146 acres per farm, and even more so when compared with the national average of 461 acres per farm in 1987. In the eight-county region the average tillable land per farm is 22 acres (11).

Table 1 shows the eight counties, the number of farms in each county, total farmland, harvested cropland, average farm size, and average tillable acreage.

Table 2 shows the number of full- and part-time farm employees in the eight-county area. Grant County, with 1,508 employees, had the highest employment.

Estimates by the Department of Horticulture and Agricultural Economics at the University of Kentucky indicate that this region may be responsible for nearly one-fifth of the State's agricultural revenue (8).

Table 1. Farms in Northern Kentucky (1986)

County	Number of Farms	Farm Land	Harvested Land	Av. Farm Size	Av. Tillable Land
	No.	Acres	Acres	Acres	Acres
Boone	962	105,390	24,942	110	26
Campbell	545	43,467	9,288	80	17
Carroll	420	64,791	12,680	154	30
Gallatin	347	47,492	8,462	137	24
Grant	1,206	132,188	21,503	110	18
Kenton	617	46,837	9,974	76	16
Owen	1,102	177,678	26,177	161	24
Pendleton	1,026	139,998	24,289	136	22
	6,225	757,841	137,315	122	22

Source: (11)

¹Average

Table 2. Full- and Part-Time Farm Employees in the 8-county Area (1987)

County	Full/Part-time Farm Employees
	No.
Boone	1,281
Campbell	619
Carroll	578
Gallatin	688
Grant	1,508
Kenton	662
Owen	1,438
Pendleton	1,250
	8,024

Source: Regional Economic Information System. Bureau of Economic Analysis, Bureau of the Census, April 1989.

A variety of agricultural products is raised in the State of Kentucky. They include beans, broccoli, cabbage, cantaloupes, cauliflower, cucumbers, greens, okra, peas, three varieties of peppers, potatoes, summer and zucchini squash, corn, sweet potatoes, tomatoes, and turnips (6).

The profit potential for some of the fruit and vegetable crops produced in northern Kentucky is very high. One of these crops is tomatoes. By the 1980's the U.S. tomato crop was valued at over \$517 million, and estimated annual per capita consumption was approximately 12 pounds (4).

All fruit and vegetable farmers in the area market some of their production directly to consumers through retail stands or U-pick operations. Thirty percent sell to food wholesalers and 5 percent to food processors, such as frozen food companies (19).

The following discussion details the number and quantity of the different fruits and vegetables grown in this region by county.



Figure 5.— Annual average 24-hour traffic count for the central area of NKADD

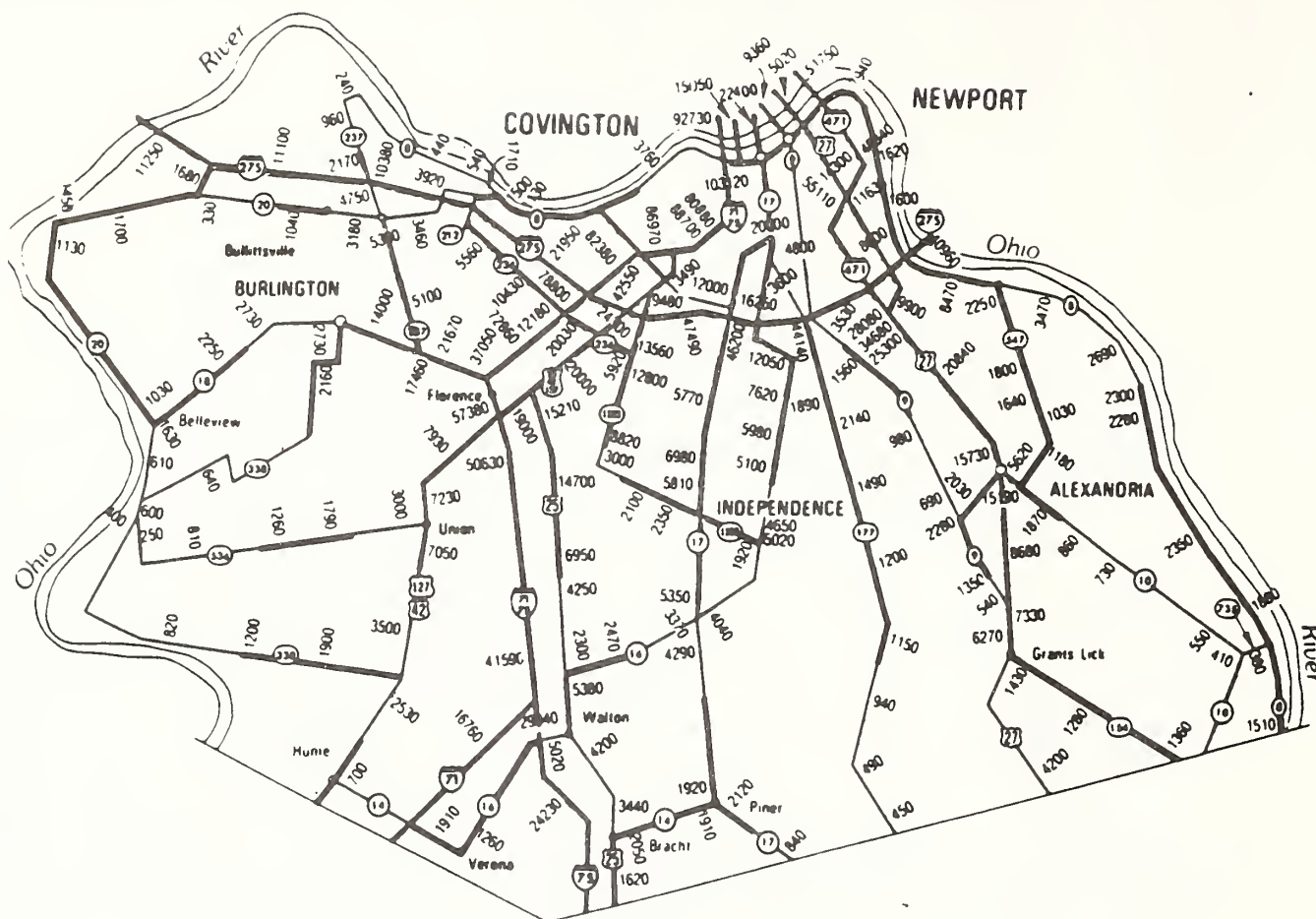


Figure 6.—Annual 24-hour traffic count for the extreme northern area of NKADD

Boone County

In 1986, Boone County had 962 farms with average tillable land of 26 acres. According to a 1983 study (6), Boone County grew beans, cantaloupes, sweet corn, and tomatoes in quantities significant enough to be recorded.

In 1987, over 31 percent of the farms had sales of over \$10,000 (17).

Table 3 shows some of the harvested acreage of fruit and vegetable crops in Boone County.

Table 3. Fruit and Vegetable Crops Harvested by Acre in Boone County, 1982

Crop	Harvested Acres
Potatoes (Irish)	127
Beans (Snap)	23
Cabbage	1
Cantaloupes	9
Sweet peppers	2
Sweet corn	114
Tomatoes	16
Strawberries	28

Source: (16)

Information withheld to avoid disclosing data for individual farms.

Campbell County

Campbell County has 545 farms, according to the 1986 data (table 1). Production in this county included beans (green), broccoli, cabbage, cauliflower, cucumbers, greens, okra, peppers (bell), potatoes, squash, zucchini, corn, sweet potatoes, tomatoes, and turnips. It is interesting to note that in a 1983 study (6) on fruit and vegetable production in different counties in Kentucky, most of the products listed above were sold directly to consumers at roadside stands.

In 1987, almost 20 percent of the farms had sales of over \$10,000 (17).

Table 4 shows production of some of the fruit and vegetable crops grown in Campbell County.

Table 4. Fruit and Vegetable Crops Harvested by Acre in Campbell County, 1982

Crops	Harvested Acres
Potatoes	10
Beans (lima)	1
Beans (snap)	23
Cantaloupes	2
Kale	9
Greens	13
Sweet potatoes	10
Squash	2
Sweet corn	45
Tomatoes	14
Strawberries	6

Source: (16)

Carroll County

Carroll County has 420 farms and produces some fruit and vegetable crops. There is some significant production of white potatoes (17).

In 1987, over 54 percent of the farms had sales of over \$10,000 (17).

Gallatin County

Gallatin County has 347 farms and harvested about 7 acres of vegetable crops in 1982 (16).

In 1987, almost 41 percent of the farms had sales of over \$10,000 (17).

Grant County

Grant County has 1,206 farms and harvested about 4 acres of vegetables in 1982 (16).

In 1987, over 39 percent of the farms had sales of over \$10,000 (17).

Kenton County

Kenton County's 617 farmers produce such crops as potatoes, snap beans, cabbage, sweet peppers, sweet corn, tomatoes, and strawberries.

In 1987, 24 percent of the farms had sales over \$10,000 (17).

Table 5 shows production of some of the fruit and vegetable crops grown in Kenton County.

Table 5. Fruit and Vegetable Crops Harvested by Acre in Kenton County, 1982

Crops	Harvested Acres
Potatoes	3
Beans (Snap)	8
Cabbage	1
Sweet peppers	4
Sweet corn	52
Tomatoes	11
Strawberries	1

Source: (16)

¹Information withheld to avoid disclosing data for individual farms.

Owen County

Owen County has 1,102 farms, and fruit and vegetable production includes potatoes and strawberries as its more important crops.

In 1987, over 53 percent of the farms had sales of over \$10,000 (17).

Pendleton County

Pendleton County has 1,026 farms and harvested about 2 acres of vegetables in 1982 (16).

In 1987, 41 percent of the farms had sales of over \$10,000 (17).

Besides the selected crops listed above, another view of agricultural production in the eight-county study area shows a well-organized enterprise of ornamental production in Gallatin and Boone Counties; processing and fresh vegetables in Boone, Campbell, Grant, and Owen Counties; fresh fruit production (especially strawberries) in all eight counties; and floriculture in Campbell and Kenton Counties (11).

In order to get a clearer picture of the potential sellers to the farmers' market, the NKADD, in cooperation with the Northern Kentucky Extension Service and the USDA, developed a survey questionnaire. One thousand questionnaires were sent to a representative number of farmers in each of the eight counties. The reply rate was 24 percent, ranging from a high of 32.6 percent for Boone County to a low of 18.4 percent for Gallatin County.

As shown in table 6, 63 percent of the farmers who responded to the survey said that they would begin or increase production. Respondents also indicated to what extent they would benefit from the facilities mentioned in the survey. Responses ranged from a low of 12 percent who said that they would benefit most from a bulk storage lot where commodities could be stored for shipment to other markets or food centers at a later date, to a high of 44 percent who said that they would benefit most from a wholesale business where the commodities would be purchased from the farmers and sold to local and regional distributors. Seventy-three percent of the farmers who replied indicated that they would be willing to pay a nominal gate fee to use the market.

The 63-percent favorable response for the market translates to over 7,800 farms and farmlike operations in the eight-county region. It can be assumed that as the market prospers more farmers would likely start using the market facilities. The market has potential as a strong link between farmer and consumer. It cannot be stressed too strongly that a farmers' market can be very beneficial for the farmers of the region. The added income that the market can produce will complement the income that farmers now receive from tobacco and other agricultural endeavors.

Potential Buyers

If a farmers' market or, for that matter, any other business is to be successful, it must have potential buyers—not just numbers of people, but people who have a desire for the product being sold. The total population of the eight counties was estimated at 286,000 in 1967. By 1987 the population had grown to 317,000, an increase of 11.9 percent. The area accounted for 8.6 percent of the State's total population (9). The annual compounded growth rate was 0.59 percent. During the same period, the population in the State of Kentucky (3,726,000) grew at an annually compounded rate of 0.0354 percent, and in the Cincinnati consolidated metropolitan statistical area (CMSA) (1,680,000) at a rate of 0.0068 percent. Between 1967 and 1987, northern Kentucky's population grew at a more rapid rate than that of Kentucky or the CMSA (7).

Table 6. Results of a Survey Sent to a Representative Sample of Farmers in the Eight-County Area of the NKADD

QUESTIONS	POSITIVE RESPONSES
	<u>Percent</u>
1. Are you now growing fruits and vegetables, hay, or horticultural crops as part of your farming operations?	62
2. Would you begin or expand production of these commodities if there were a regional market facility available in Northern Kentucky?	63
3. Of the marketing components listed below, which would most benefit you?	
Drive-through truck shed	26
Retail market	18
Garden center	16
Bulk storage lot	12
Fruit and vegetable preparation facility	26
Wholesale business	44
4. Would you prefer selling your products to:	
Consumers yourself?	7
Wholesaler who sells to consumers?	16
5. Would you pay a nominal gate fee to use the market?	73
6. What is the maximum distance you would be willing to travel to sell your products at this market?	<u>Miles</u> 31-45

The population projection for each of the eight counties is listed in table 7. In seven of the eight counties, population is expected to increase over the next 30 years. Only in Campbell County is population expected to decrease.

The data show that the population of the area is substantial and could, theoretically, support a farmers' market. Furthermore, these figures do not take into account the number of people who travel through the area who are also potential customers.

The proposed farmers' market can be developed to satisfy consumer demands and preferences, thus generating their patronage. Customer count could reach 2,500 per 24-hour period in season and 1,200 per 24-hour period during the winter (8).

Potential buyers in the area have sufficient income to support a farmers' market. In 1984, per capita personal income for NKADD was \$11,161. For the Cincinnati CMSA it was \$12,637. The total effective buying income in 1985 was \$3,327,922,000 for NKADD and \$419,737,135,000 for the Cincinnati CMSA (7).

Figure 7 shows NKADD and Cincinnati real per capita income and cumulative growth rates, 1967-84.

Table 7. Population Projection for the Eight Counties of the NKADD

County	Population Projection				
	1990	1995	2000	2010	2020
Boone	58,058	64,317	69,556	78,552	86,607
Campbell	79,407	77,947	76,871	74,640	71,337
Carroll	10,305	10,742	11,042	11,511	11,805
Gallatin	5,400	5,747	6,014	6,422	6,774
Grant	15,539	16,628	17,520	18,957	20,185
Kenton	142,437	146,756	150,276	155,676	158,835
Owen	9,577	9,932	10,240	10,725	11,101
Pendleton	11,253	11,619	11,889	12,262	12,437

Source: (3)

Table 8 shows the per capita income for the eight counties for 1980 and 1984, and the percentage change. Owen County had the largest percentage change, 38.8 percent; Grant County, the smallest, 28.3 percent.

Increases in population and income for the area reflect the increase in per capita consumption in major food groups throughout the United States. Using a base of 100 for 1967, per capita consumption of fresh vegetables rose from 102.9 in 1972 to 130.0 in 1985. In the same time period per capita consumption of fresh fruits rose from 91.9 to 122.2 (15). Table 9 shows the per capita consumption index for fresh vegetables and fruits from 1972 to 1985 for the United States.

Of all vegetables, broccoli and cauliflower have shown the greatest per capita consumption gains, increasing 121 and 94 percent, respectively, over the last 10 years (12).

Table 8. Per Capita Income for the Eight Counties for 1980 and 1984, and the Percentage Change

County	1980	1984	Percentage Change
Boone	\$8,983	\$11,568	28.8
Campbell	8,176	11,270	37.8
Carroll	7,209	9,723	34.9
Gallatin	6,193	8,446	36.4
Grant	7,000	8,978	28.3
Kenton	8,492	11,778	38.7
Owen	5,711	7,926	38.8
Pendleton	6,558	8,664	32.1

Source: (3)

Per capita consumption of peaches, plums, and strawberries has also increased significantly. In 1984, strawberry consumption soared 27 percent to 2.8 pounds, the highest consumption in 40 years (12). In some of the eight study counties, strawberries are a significant crop. U.S. production of cantaloupe, another crop grown in the area, totaled more than 1.4 billion pounds in 1983 (5). Cantaloupe is another fruit whose per capita consumption has increased.

With increasing population and per capita income in the area, along with growing per capita consumption of fresh fruits and vegetables, the indications are all positive that a regional farmers' market has the potential for financial success.

The population of the region can benefit as much as area farmers from the proposed market. Consumers will have quality products to choose from at reasonable prices, and they also will be helping the economy of the region by buying locally.

Table 9. Per Capita Fresh Vegetable and Fruit Consumption Index for the United States, 1972-85 (1967=100)

Year	Fresh Vegetables Consumption	Fresh Fruit Consumption
1972	102.9	91.9
1973	106.3	95.9
1974	106.6	98.2
1975	107.2	106.8
1976	109.9	104.5
1977	112.1	104.2
1978	111.0	104.8
1979	115.2	107.2
1980	116.1	113.6
1981	114.8	112.6
1982	120.7	112.5
1983	119.9	118.1
1984	128.5	121.6
1985	130.0	122.2

Source: (15)

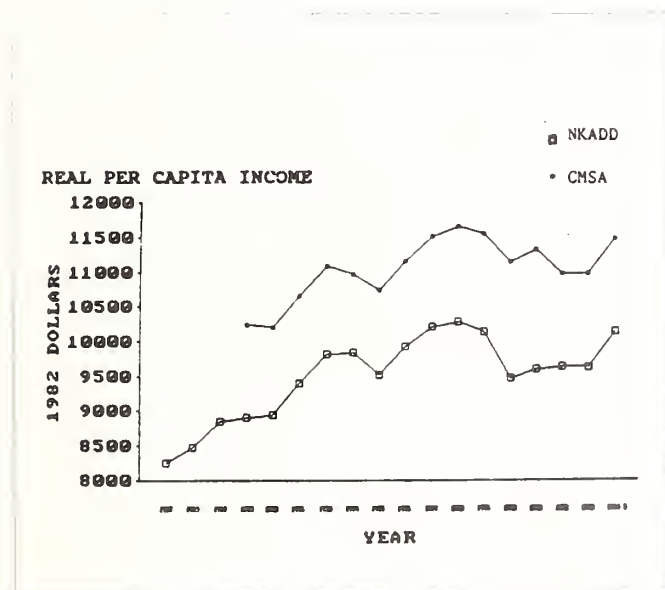


Figure 7.—NKADD and Cincinnati real per capita income and cumulative growth rates

Facility

What is a farmers' market? A farmers' market is a central location where farmers (the sellers) bring their goods to display before the general public and/or food wholesalers and/or food brokers (the buyers).

Why a farmers' market? A farmers' market could prove to be the best means of marketing the farmers' products.

The facilities can be very simple, and yet serve the purpose for which they were designed. They also can be very elaborate; most farmers' markets fall between the two extremes. In this section, the types of facilities needed and their basic design are discussed. Also discussed are the ways the facilities can be enlarged or added (phases) as the market grows and the estimated costs of these structures.

The proposed market will be a regional agricultural market, not a cooperative.

Location

The selection of the location of the market could have a profound bearing on the success or failure of the enterprise. Such factors as residential and business growth, access to good roads and highways, zoning, accessibility for people unfamiliar with the area who only travel major highways, reasonably priced land, and adequate space are factors that must be considered.

Traffic flow near and through the proposed site area is also an important factor. In that regard, the information presented in figures 5 and 6 would be an important factor to consider.

Decisions on location should be based on economic and legal considerations, not political ones. Then the probability of success of the endeavor will be increased.

Phases

It is recommended that the market be built in stages. As the market grows and prospers, additional buildings and functions should be added. This would mean a phased approach in the development of the market.

The initial phase of development would include the construction of a retail building, truckers' shed, garden supply center, and a gatehouse. A later phase could include a wholesale building, a bulk sales lot, and a fruit and vegetable preparation facility. A final phase could include privately owned wholesale and retail buildings.

Adequate land will be needed to complete all phases of the project and should be planned for and acquired at the time of initial purchase. Land needs are shown in the costs section of this report.

Functions

A brief discussion of the functions that can be performed at each facility on the market follows, based on information from (8).

Retail Buildings:

During the summer months locally grown, in-season produce would take precedence for sale. Otherwise, produce available regionally or out-of-State could be sold.

This facility is designed around the total market concept. It will be self-contained, but it will be capable of interacting with other components. For example, produce and nursery stock could be purchased from wholesale facilities and sold at the retail building. Also, produce from the retail building not sold that day could be consolidated and sold at reduced price to merchants at the truck shed. These merchants in turn would sell it as "day old" produce.

Truck Shed:

Fruits and vegetables in varying quantities from individual pieces to bushel-basket-size containers would be for sale by area and out-of-State producers to other wholesalers, retailers, and the public. Only a small portion of each producer's fruits and vegetables would be unloaded for display. The remainder would be kept on the truck for storage and to retain freshness.

Garden Supply Center:

A garden supply center is proposed. Activities would include marketing horticultural materials for the homeowner and the do-it-yourself landscaper. Materials would include ornamental and flowering plants, landscaping and fruit trees, and sod.

Gatehouse:

This facility would monitor and control the flow of incoming and exiting traffic. Fees could also be collected here.

Wholesale Building:

This facility would serve the food service, retail, and grower markets. Wholesalers could buy from growers and retail markets and consolidate loads for other market areas.

Bulk Sales Lot:

Bulk sales could include hay, grain, ornamental plants, firewood, Christmas trees, and other large bulky items.

Fruit and Vegetable Preparation Facility:

This facility would provide for the preparation of various sized quantities of fruit and vegetables for resale to local and regional food service institutions. It would add value to these commodities, thus producing an economic multiplier effect.

Structures

The figures of layouts shown in this section of the report are intended to show typical designs that are found in other farmers' markets. They may or may not be the type of design used at the proposed farmers' market for northern Kentucky.

For some of the buildings a typical view of construction and layout will be shown and discussed. Again, this is for the purpose of giving the reader an idea of what can be constructed and what it will look like.

The retail building can be a preengineered steel structure. The building should be erected on a 5-inch reinforced concrete slab at grade level. The exterior could be finished in acrylic enamel, wood panels, or wood shingles.

Pedestrian walk-in doors at the ends of the building and centered on each side are recommended. Also, a 10- by 12-foot drive-in door at both ends is suggested to facilitate delivery and removal of products. The interior of the building could be divided into open areas, extending the length of the building (fig. 8). The center area could serve as the main customer access aisle to the sale stalls. The retail building

could be designed with overhead doors along each side. This would provide access by farmers to stalls and provide for efficient delivery. The information provided above is condensed from (13).

The truckers' shed can provide an open-sided shelter with designated length stalls. Trucks can be backed in as far as the line of supporting columns. This will allow farmers to position their trucks at the stall areas and set up their displays facing the center aisle. The center aisle can be divided into lanes for one-way traffic through the building, thus creating an unobstructed center lane and two sales lanes. This arrangement will permit customers to load their purchases directly into their vehicles (fig. 9).

The shed can be a preengineered steel building with a continuous beam which spans the distance between columns and extends beyond each side of the building. It should be erected on grade on a 5-inch reinforced concrete slab which slopes downward from the centerline to facilitate drainage during cleaning.

Information for the shed is provided in (13).

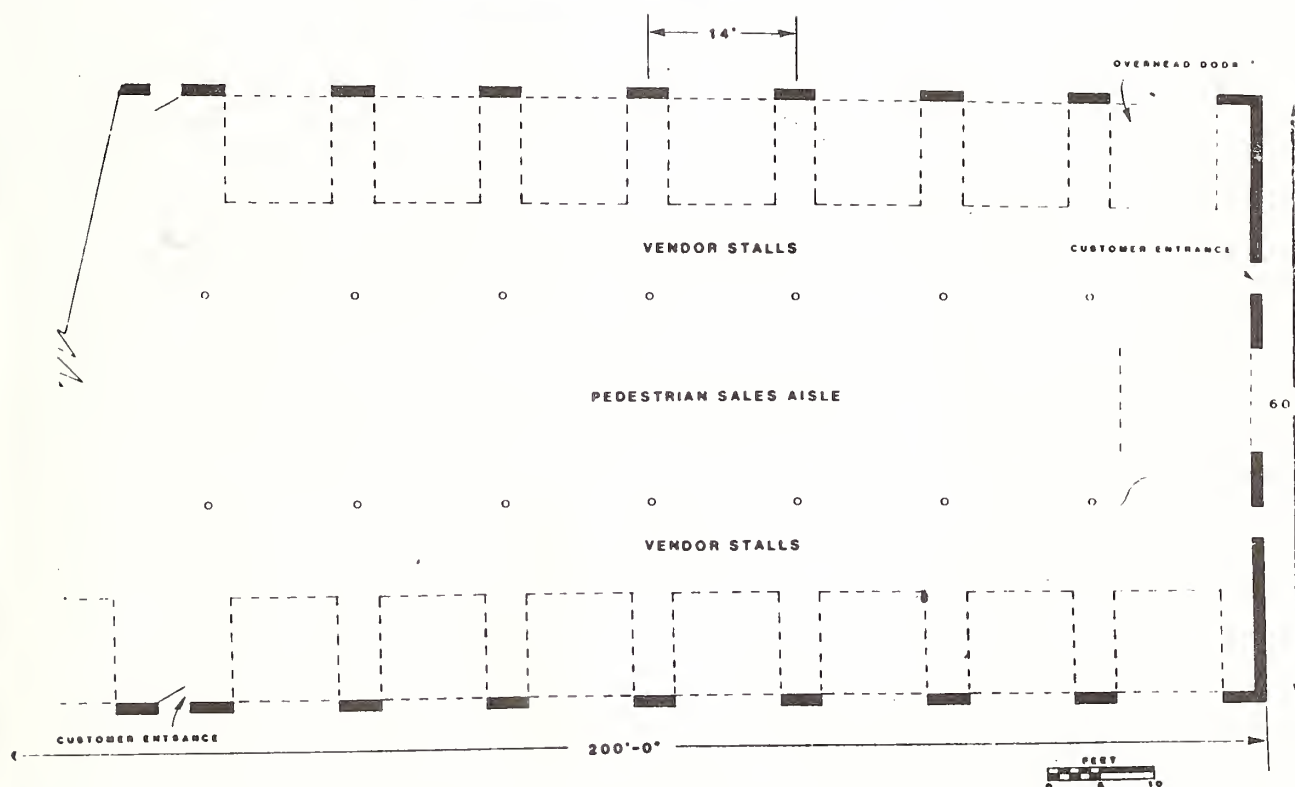


Figure 8.—Typical layout of a retail building

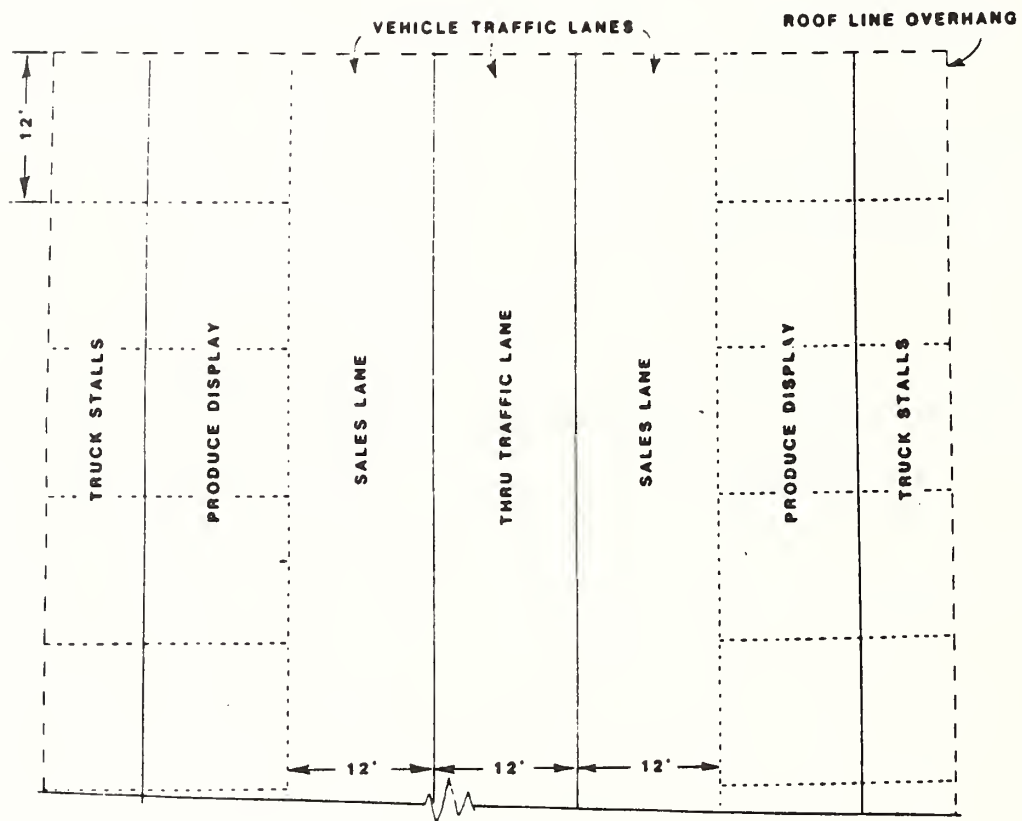
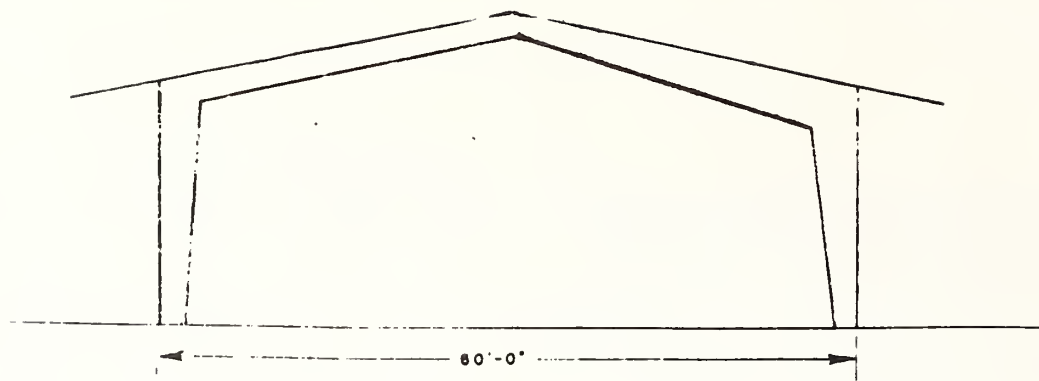


Figure 9.—Typical layout of a truckers' shed

Figures 10 and 11 show other designs of a truckers' open shed while figures 12 and 13 show a closed shed. The garden supply building can be a preengineered single-occupancy facility. The floor should be truck-bed height with a ceiling of at least 21 feet. Security fencing could be constructed for outdoor storage (13).

A double-lane entrance is suggested. This would permit vehicles that are not required to stop to enter the market without waiting. A gatehouse would be needed to protect employees from inclement weather.

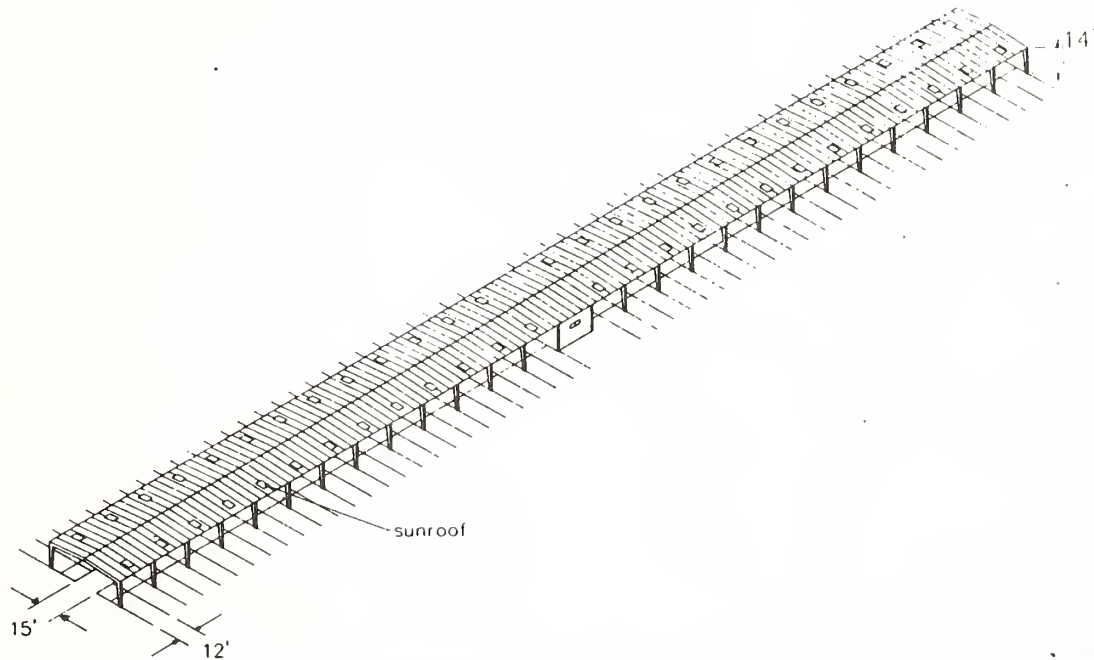


Figure 10.—Truckers' open shed

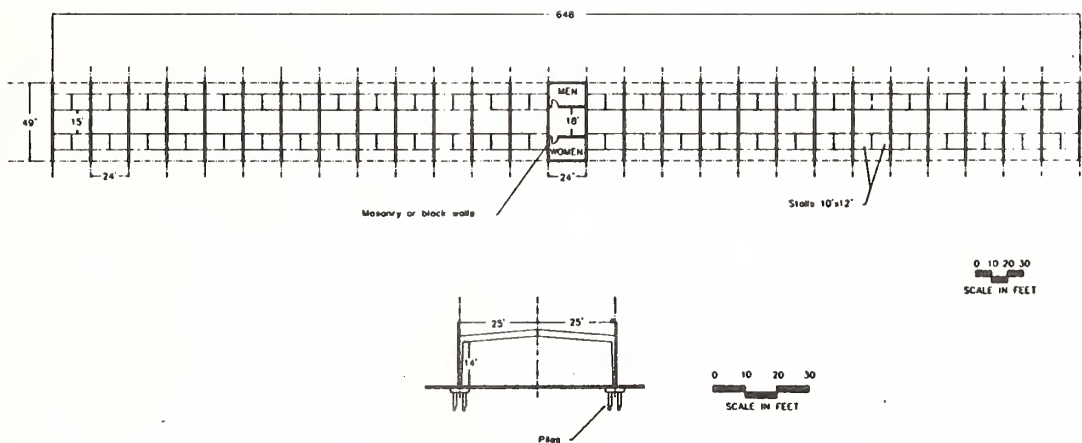


Figure 11.— Truckers' open shed plan and cross-section view

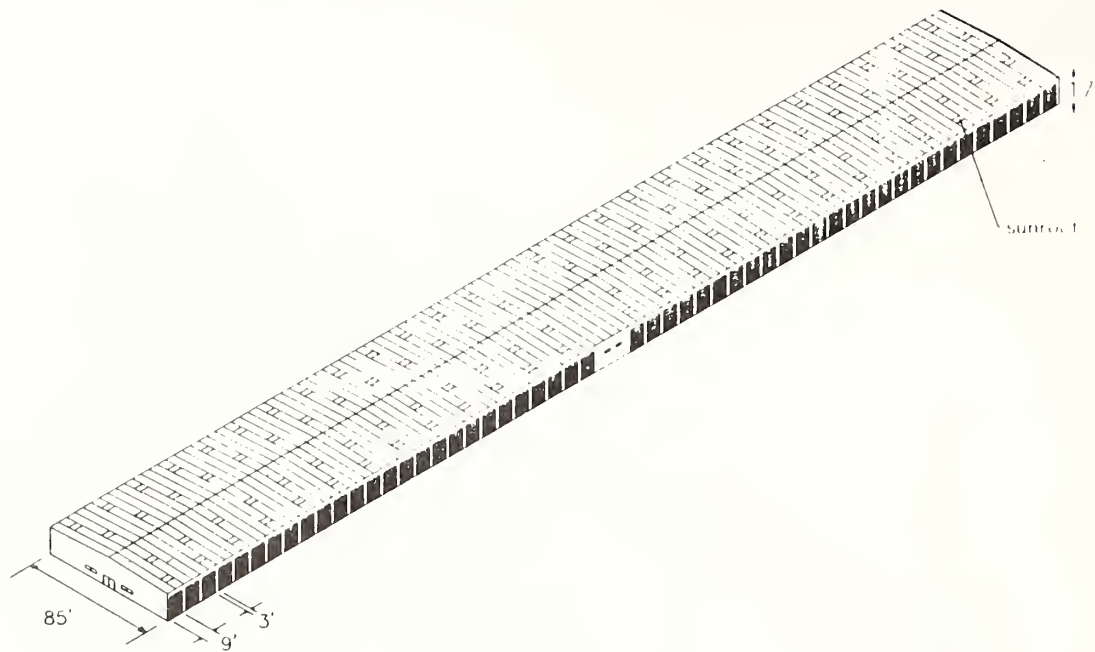


Figure 12.—Truckers' closed shed

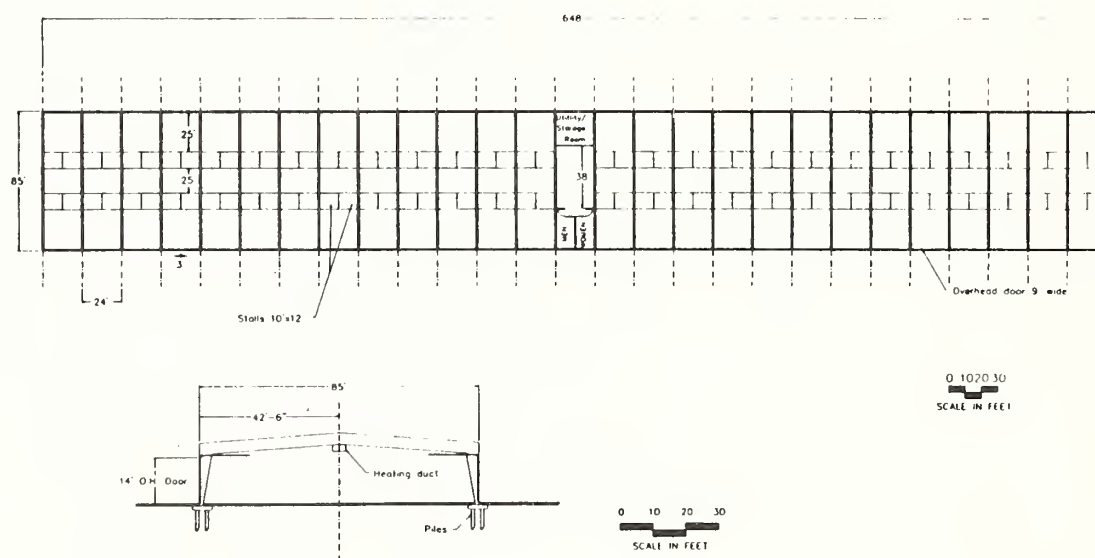


Figure 13.—Truckers' closed shed plan and cross-section view

Costs

Costs for land and the initial phase of construction are based on an NKADD study (8). They are estimates and are intended only as a guide in planning the facilities.

STRUCTURES

Retail Building

	Costs
40 Stalls, 60' x 400' or 24,000 sq. ft. @ \$9.60/sq. ft.	\$268,000
Display Tables/Office Equipment	14,200
Restrooms	4,000
Blacktopping, 11,000 sq. yd. @ \$7.50/sq. yd.	82,000
Street Lighting	3,000
Gable Truss	16,000
Associated Costs	
Architectural/Engineering (5%)	19,400
Construction Financing Costs (10%)	38,800
Contingency (15%)	58,200
Land 3.75 acres @ \$12,000/acre	<u>45,000</u>
Total	\$548,600

Drive-Through Truck Shed

80 Stalls, 48' x 480', 23,040 sq. ft. @ \$4.65/sq. ft.	\$107,136
Restrooms (enclosed)	6,000
Blacktopping 22,000 sq. yd. @ \$7.50/sq. yd.	165,000
Stone Paving 6,000 sq. yd. @ \$2.80/sq. yd.	16,800
Street/Flood Lighting	9,500
Associated Costs	
Architectural/Engineering (5%)	15,221
Construction Financing Costs (10%)	30,443
Contingency Allowance (15%)	45,665
Land 5.75 acres @ \$12,000/acre	<u>69,000</u>
Total	\$464,765

Garden Center

200' x 40' bldg. @ \$38.3/sq. ft.	\$306,400
Restrooms	3,000
Street/Flood Lighting	6,000
Blacktopping 11,000 sq. yd. @ \$7.50/sq. yd.	82,500
Stone Paving 3,000 sq. yd. @ \$2.80/sq. yd.	84,000
Associated Costs	
Architectural/Engineering (5%)	20,315
Construction Financing Costs (10%)	40,630
Contingency (15%)	60,945
Land 3.75 acres @ \$12,000/acre	<u>45,000</u>
Total	\$375,190

Gatehouse and Entrance

10' x 5' bldg., 50 sq. ft. @ \$24/sq. ft.	1,200
Associated Costs	
Architectural/Engineering (5%)	60
Construction Financing Costs (10%)	120

Contingency (15%)	180
Land 0.75 acre @ \$12,000/acre	<u>9,000</u>
Total	\$10,560

TOTAL CAPITAL CONSTRUCTION COST	\$1,597,115
14 acres and buildings	

Additional Land, 21 acres for a total of 35 acres @ \$12,000/acre	<u>252,000</u>
TOTAL FACILITY COST	\$1,849,115

The costs listed below are for buildings that could be built in later phases of the farmers' market (8). As stated previously, these costs are estimates and are intended only as a guide in planning the facilities.

STRUCTURES

Wholesale Market

30' x 300' concrete block bldg. @ \$38.8/sq. ft.	\$350,000
Blacktopping 11,000 sq. yd. @ \$7.50 sq. yd.	82,500
Stone Paving 3,000 sq. yd. @ \$2.80/sq. yd.	8,400
Street Lighting/220-wiring	12,100
Associated Costs	
Architectural/Engineering (5%)	22,650
Construction Financing Costs (10%)	45,300
Contingency (15%)	<u>67,950</u>
TOTAL	\$588,900

Fruit & Vegetable Preparation Center

60' x 60' bldg. @ \$26/2 sq. ft.	\$93,600
Equipment: responsibility of operator	
Blacktopping/Paving 2,000 sq. yd. @ \$7.50/sq. yd.	15,000
Associated Costs	
Architectural/Engineering (5%)	5,430
Construction Financing Costs (10%)	10,860
Contingency (15%)	<u>16,290</u>
TOTAL	\$141,180

Bulk Sales Lot

Blacktopping 11,000 sq. yd. @ \$7.50/sq. yd.	\$82,500
Stone Paving 3,000 sq. yd. @ \$2.80/sq. yd.	8,400
Street/Flood Lighting	2,600
Fencing and Gate	9,460
Associated Costs	
Architectural/Engineering (5%)	5,148
Construction Financing Costs (10%)	10,290
Contingency (15%)	<u>15,440</u>
TOTAL	\$133,838

TOTAL COST	\$863,918
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Assuming there is a good supply and demand for the product,

Comments

the successful operation of a farmers' market depends in large measure on the ability of the manager and that of the support staff. The board of directors must be willing to pay high enough salaries to attract and hold competent employees or the operation will have trouble surviving.

To ensure continuing success of the market, management also should insist on strict adherence to the following maxims (1):

- **DEMAND:** Demand must be built for the market's products. Good markets exist where demand goes ahead of supply.
- **EDUCATION:** Customers have to be taught to recognize and appreciate the merits of quality fruits and vegetables. Education costs only pennies per units sold, but the price of ignorance is measured in dollars.
- **COOPERATION:** Sellers should not be allowed to undercut their neighbor's prices. This can lead to price wars where nobody wins.
- **QUALITY:** Farmers should not attempt to market inferior products. Bruises are unappetizing and poor produce looks shabby. Lack of quality is the surest way to drive away buyers.

The farmers of northern Kentucky need another source of revenue to offset their declining income from tobacco. Within

Conclusions

the farming population there is potential for a move to the production of alternative crops as well as an increase in those fruit, vegetable, and horticultural crops that are already being grown. Therefore, on the selling side it appears that with time an adequate supply of products would be available for a farmers' market.

With a large and growing population, a large amount of disposable income, and an increase in the per capita consumption of fresh fruits and vegetables, the potential for an energetic buying side looks very promising.

The reality of a market for northern Kentucky appears feasible. How fast the market is developed and enlarged depends on successful management right from the beginning. Adequate land for expansion should be purchased at the start. Land with good access to it is of primary importance. As the market progresses, later phases of functions should be considered.

A vigorous campaign promoting the market is essential to ensure its success. The people of the greater Cincinnati area must be made aware of the establishment of the market and what it will mean to them. If buyers and sellers in substantial numbers can be brought together, the farmers' market of northern Kentucky will succeed.

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